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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,272	05/15/2001	William Charles Ulland	2970.95US01	2680

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EXAMINER

ROSASCO, STEPHEN D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 06/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-3

Office Action Summary

Application No.

09/858,272

Applicant(s)

ULLAND ET AL.

Examiner

Stephen Rosasco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al. (6,200,737) or Cutter et al. (5,998,069) in view of Nakagawa et al. (6,312,857).

The claimed invention is directed to: a device for controlled exposure of photoreactive compositions comprising a light emitting diode array and a control mechanism for regulating the light intensity; and to a method for exposing a photosensitive substrate, while using a light guide which is a fiber optic bundle. And wherein the diode array emission spectra is from 350-450.

Walt et al. teach a photodeposition method for fabricating a three-dimensional polymer microstructure of prearranged pattern and precise scale, said photo deposition method comprising the steps of: furnishing at least one shaft of light energy of determinable wavelength, intensity, and exposure time;

supplying a preformed, unitary fiber optic array comprising a plurality of clad optical fiber strands disposed co-axially along their lengths and having two discrete optic array end surfaces each formed of multiple optical fiber strand end faces, said preformed, unitary optic array being of determinable configuration and dimensions, and said discrete optic array end surfaces presenting multiple optical fiber strands and strand end faces having determinable dimensions for conveyance and discharge of light energy;

preparing a fluid prepolymer reaction mixture composition comprising at least one photoinitiator and at least one chemical entity selected from the group consisting of monomers, dimers, oligomers, copolymers, and homopolymers, immersing a solid substrate surface in said

fluid prepolymer mixture at a distance less than 50 micrometers from said discrete optic array end surfaces; adjusting said light energy intensity, said wavelength, and said exposure time to said concentrations and said composition of said prepolymer mixture for precisely scaling and sizing the pattern of said three-dimensional polymer microstructure;

introducing said shaft of light energy to only a portion of said multiple optical fiber strand end faces forming one optic array end surface of said unitary optic array such that said introduced shaft of light energy becomes divided into a prearranged pattern of multiple beams of light energy which are individually conveyed through preselected ones of said multiple optical fiber strands of said unitary optic array and said conveyed multiple beams are discharged as a patterned template of configured light energy zones from the other optic array end surface of said unitary optic array, said discharged multiple individual beams of light energy having individual beam dimensions essentially equivalent to said determinable dimensions of said multiple optical fiber strands and strand end faces;

directing said multiple individual beams of light energy to said substrate surface;

depositing a cured polymer on said substrate surface by way of a photoinitiated polymerization reaction, whereby a three-dimensional and integral photodeposited polymer microstructure of prearranged pattern and precise scale is formed on said substrate surface, said integral polymer microstructure comprising a plurality of precisely scaled polymeric projections each having a breadth and shape essentially equivalent to said determinable dimensions of said multiple optical fiber strands; and terminating the deposition of said cured polymer microstructure when the breadth of said polymeric projections is essentially equivalent to the dimension of said individual optical fiber strand end faces, wherein said fabricated polymer microstructure is an electroactive microelectrode.

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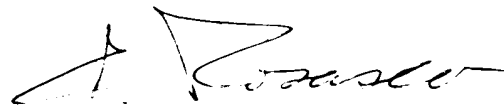
Cutter et al. teach an electronically programmable photolithography mask comprising: a material having optical characteristics that are electronically controlled to provide a mask pattern, wherein the material has a first region allowing transmission of light from a light source and a second region allowing transmission of light, such that a phase of light passing through the second region is 180 degrees out-of-phase with light passing through the first region.

And wherein the optical characteristics of the material are reprogrammable for changing the mask pattern, and a processor electronically controls the material forming the mask pattern. The teachings of Walt et al. or Cutter differ from those of the applicant in that the applicant teaches that the light source is comprised of LED's that emit in the spectra range of 350-450. Nakagawa et al. teach the use of a light emitting diode (light emission wavelength 450 nm) having a beam diameter of 30 microns as a light source for exposure of a photomask.

It would have been obvious to one having ordinary skill in the art to take the teachings of Walt et al. or Cutter et al. and combine them with the teachings of Nakagawa et al. in order to make the claimed invention of the applicant because one would know to choose from the available light sources to use for exposure depending on the optical parameters desired for exposure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Rosasco whose telephone number is (703) 308-4402.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661. Fax (703) 872-9310 Before Finals; 872-9311 After Finals.



S. Rosasco
Primary Examiner
Art Unit 1756

S. Rosasco
6/19/02